

AMENDMENTS TO THE CLAIMS

1. (currently amended) A speech complementing apparatus comprising:

means for repeatedly and continuously detecting whether or not there is a filled pause in a user's speech, wherein said filled pause is a trigger for complementing and wherein said filled pause is a lengthened vowel that is typically uttered during hesitation;

means for recognizing said user's speech in parallel with said detecting whether or not there is said filled pause;

means for complementing a language part to the fragment of the language spoken by the user when said filled pause is detected by said means for detecting; and

means for outputting a result of recognizing by said means for recognizing when no filled pause was detected.

2. (canceled).

3. (previously presented) The speech complementing apparatus as claimed in claim 1, wherein said means for complementing complements said language part after said filled pause with a clue, which is a fragment before said filled pause of the speech, when said filled pause was detected.

4. (previously presented) The speech complementing apparatus as claimed in claim 1, wherein said means for complementing considers a specified key-word as a specified string to replace a specific key-word based on a relation of words around the specific key-word, when responding to said specific key-word including said filled pause.

5. (canceled).

6. (previously presented) The speech complementing apparatus as claimed in claim 4, further comprising:

output means for outputting a list of candidates for complementing when there are a plurality of candidates for complementing; and

input receiving means for receiving a selection from the user of said plurality of candidates, wherein when there is only one candidate, the apparatus performs one of: asking the user's confirmation with said output means, or inputting automatically the one candidate.

7. (currently amended) A speech complementing method wherein a system recognizes a user's speech, said method comprising:

(a) detecting repeatedly and continuously whether or not there is a filled pause in the user's speech, wherein said filled pause is a trigger for complementing and wherein said filled pause is a lengthened vowel that is typically uttered during hesitation;

(b) recognizing said user's speech in parallel with (a);

(c) complementing a language part to a fragment of the language spoken by the user by said system when said filled pause is detected; and

(d) outputting a result of said recognizing when no filled pause is detected.

8. (canceled)

9. (previously presented) The speech complementing method as claimed in claim 7, wherein (c) comprises complementing the language part following said filled pause with a clue which is a fragment of the user's speech occurring before said filled pause.

10. (previously presented) The speech complementing method as claimed in claim 7, wherein responding to a specific key-word including said filled pause, the specified key-word is considered as a specified string to replace the specific key-word based on a relation of around the specific key-word.

11. (canceled).

12. (previously presented) The speech complementing method as claimed in claim 7, wherein (c) further comprises:

outputting a list of the candidates for complementing to a screen or in audio form, when there are a plurality of candidates for complementing;

receiving a selection of said plurality of candidates from said user; and

when there is only one candidate, performing one of: asking confirmation of said only one candidate from said user, or inputting said only one candidate automatically.

13. (currently amended) A recording medium which stores a program executed in a complementing apparatus, said program comprising:

a speech input step for inputting a speech;

a first detecting step for detecting repeatedly and continuously whether or not there is a filled pause in the inputted speech, wherein said filled pause is a lengthened vowel that is typically uttered during hesitation;

a recognizing step for recognizing said user's speech in parallel with said first detecting step, wherein a recognition result is generated;

a second detecting step for detecting a word fragment being a base to be complemented in said recognition result when there is the filled pause in said first detecting step;

a complementing step for complementing said recognition result, based on the detected word fragment;

an outputting step for outputting said recognition result when no filled pause was detected.

14. (previously presented) The recording medium as claimed in claim 13, wherein in said second detecting step, the word fragment is specified by detecting a period of the filled pause in the speech inputted in said speech input step.

15. (previously presented) The recording medium as claimed in claim 14, wherein said word fragment is said recognition result before said period of the filled pause.

16. (previously presented) The recording medium as claimed in claim 13, wherein in said second detecting step, said word fragment is specified by detecting a predetermined string in the result of recognizing in said recognizing step.

17. (previously presented) The recording medium as claimed in claim 16, wherein said word fragment is the result of recognizing after said predetermined string.

18. (previously presented) The recording medium as claimed in claim 13, further comprising:
a selecting step for selecting a candidate for complementing if there are the plurality of candidates when said word fragment is complemented by said complementing step.

19. (previously presented) The speech complementing method as claimed in claim 7, further comprising:
generating a candidate of speech forward complementing dynamically by tracing toward leaves of a word dictionary of a tree structure, considering an effective hypothesis as a seed.

20. (previously presented) The speech complementing method as claimed in claim 7, further comprising:
recognizing from a middle of a spoken word; and
speech-backward complementing based on the result of said recognizing.

21. (previously presented) The speech complementing method as claimed in claim 20, wherein said system comprises a word dictionary of a tree structure and an entry node table, and wherein the method further comprises:

registering a root from which said recognizing starts in said entry node table;
adding syllables of words in said word dictionary temporarily to said entry node table;

obtaining highest hypotheses from the hypotheses which reach to leaves of said tree structure and are numbered in order of high likelihood so that the highest hypotheses obtained become candidates of complementing for said speech backward complementing.

22. (previously presented) The speech complementing method as claimed in claim 20, wherein said system comprises a word dictionary of a tree structure and a entry node table, and wherein the method further comprises:

registering a root from which said recognizing starts in said entry node table;
selecting candidates for complementing when a top of a word is uttered by the user by registering words temporarily on said word dictionary, wherein said words to be registered are ones in which the end of an unuttered phoneme string of each candidate is a leaf.

23. (previously presented) The speech complementing method as claimed in claim 19, wherein said system comprises a word dictionary of a tree structure and a entry node table, and wherein the method further comprises:

registering a root from which said recognizing starts in said entry node table;
adding a seed of a candidate for complementing temporarily to said entry node table, wherein said seed is used when said candidate for complementing is generated, as a root,

selection of the plurality of candidates for complementing by uttering a latter part of a word is made possible.

24. (previously presented) The speech complementing method as claimed in claim 7, further comprising:

presenting a plurality of candidates for complementing to a user;

accepting a selection of a user to complement by the selected candidate for complementing;

and

automatically complementing with a candidate when a number of candidates for complementing is one.

25. (currently amended) The speech complementing method as claimed in claim 7, further comprising:

(e) determining whether or not a wild card key-word is included in the result of recognizing just before said filled pause when responding to detecting by (a);

(f) executing speech backward complementing when said wild card key-word is present; and

(g) executing speech forwarding complementing when said wild card key-word is not present.

26. (previously presented) The speech complementing method as claimed in claim 12, further comprising:

selecting a remaining part, wherein the system complemented the part of a fragment of a language spoken by the user, after the system displays the list of the candidates for complementing and when the user selects the plurality of candidates for complementing, by recognizing a speech spoken to read by the user.